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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,292	06/01/2001	Delmur R. Mayhak JR.	40134.1USU1	9208
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MERCHANT & GOULD PC			BOYCE, ANDRE D	
P.O. BOX 2903			ART UNIT	
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3623

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,292

Applicant(s)

MAYHAK ET AL.

Examiner

Andre Boyce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/27/01, 11/27/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-23 have been examined.

Claim Objections

2. Claims 4, 10, and 16 are objected to because of the following informalities:

Claim 4 recites "wherein employee a plurality of job types." This verbiage is unclear.

Claim 10 recites "values related to required employee." This verbiage is unclear.

Claim 16 recites "A method as of scheduling employees." This verbiage is unclear.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13, 15, and 18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is rendered vague and indefinite. Claim 13 recites a computer program product executing the method of claim 12. As a result the claim may belong to two statutory classes. Further, claim 13 may be infringed upon, without infringing on the claim 12, rendering claim 13 an improper dependent claim.

Claim 15 is rendered vague and indefinite. Claim 15 recites a computer program product executing the method of claim 1. As a result the claim may belong to two

statutory classes. Further, claim 15 may be infringed upon, without infringing on the claim 1, rendering claim 15 an improper dependent claim.

Claim 18 is rendered vague and indefinite. Claim 18 recites a computer program product executing the method of claim 16. As a result the claim may belong to two statutory classes. Further, claim 18 may be infringed upon, without infringing on the claim 16, rendering claim 18 an improper dependent claim.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-12, 14, 16, and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter.

For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case the independent claims 1 and 16 only recite abstract ideas. The recited steps of evaluating patient care requirements, adjusting scheduling times, compiling a plurality of patient profiles, compiling a plurality of employee profiles, etc., does not involve, use, or advance the technological arts (i.e., computer, processor, electronically, etc.), since the steps could be performed using pencil and paper.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case the claimed invention schedules employees, thereby producing a useful, concrete, and tangible result, but not within the technological arts as explained above.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 6, 7, 9-13, 15-21, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirsch et al (WO 97/25682).

As per claim 1, Hirsch et al disclose a method of scheduling a plurality of patients and a plurality of employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite

resources, pg 7, lines 26-29), wherein at least two patients receive treatment during a predetermined time period (figure 12), said scheduling method comprising: for each patient, evaluating patient care requirements (i.e., patient record including proposed medical procedure, pg 15, lines 26-29), wherein the patient care requirements correspond to actual employee time requirements necessary to satisfy the patient care requirements (i.e., procedures listing screen, including average time, figure 7); in response to the patient care requirement evaluation, adjusting scheduling time throughout a predetermined time period and scheduling employees in response to the distributed employee time requirements (i.e., surgeon selects time interval for starting procedure, while providing the scheduling system sufficient latitude to optimize the resulting schedule, pg 15, lines 21-23).

As per claim 2, Hirsch et al disclose the predetermined time period is a day (pg 14, line 10), the method further comprising: dividing the day into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and in evaluating the patient care requirements, determining the patient care requirements on a per-interval basis (i.e., system preferences allow a surgeon to select a time interval for starting a procedure, pg 15, lines 21-23).

As per claim 3, Hirsch et al disclose the patient care requirements are averaged over more than one interval (i.e., average times to perform procedures are calculated and stored, pg 16, lines 25-27).

As per claim 4, Hirsch et al disclose employee a plurality of job types are predetermined (i.e., staff record, figure 8), each job type having a different patient

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care capability value associated with each job type (i.e., service code and roles, including hierarchy #, figure 1) and wherein the method further comprises: scheduling shifts of employees based on job type; scheduling employees based on scheduled job type (i.e., feasible schedules determined by the system, figure 13).

As per claim 6, Hirsch et al disclose each employee has a predetermined patient care capability (i.e., service title and procedures performed, figure 8) and wherein the method further comprises scheduling employees in relation to patient care capability (i.e., service code and role for a particular case/procedure, figure 1).

As per claim 7, Hirsch et al disclose the patient care capability relates to indirect and direct patient care activities (i.e., pre-op information, figure 11).

As per claim 9, Hirsch et al disclose dividing the predetermined time into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and displaying a plurality of patient schedules in relation to time to provide a visual indication of the patient care requirements for each interval (figure 12).

As per claim 10, Hirsch et al disclose calculating patient requirement values (i.e., average time to perform procedure, pg 16, lines 24-27) related to required employee (i.e., surgeon) based on the patient care requirements for a plurality of intervals (i.e., average time to perform) and displaying the calculated values (figure 7).

As per claim 11, Hirsch et al disclose displaying employee shift information in relation to time (i.e., surgery start and surgeon) to provide a visual indication of scheduled employee information in relation to scheduled patient information (figure 12).

As per claim 12, Hirsch et al disclose calculating a total value of employee time for each interval; displaying the calculated employee values (i.e., estimated length of scheduling, figure 11), and comparing patient requirement values and employee values for each interval to determine efficiency (i.e., scheduling via the system to increase utilization rate, based upon scheduling of staff, pg 20, lines 5-10).

Claim 13 is rejected based upon the rejection of claim 12, since it is the computer program product claim corresponding to the method claim.

Claim 15 is rejected based upon the rejection of claim 1, since it is the computer program product claim corresponding to the method claim.

As per claim 16, Hirsch et al disclose a method as of scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: compiling a plurality of patient profiles, each profile associated with a different patient (i.e., patient record, pg 15, lines 26-29), and wherein each profile comprises information related to the direct patient care needs of the associated patient (i.e., patient record including proposed medical procedure, pg 15, lines 26-29); compiling a plurality of employee profiles, each profile associated with a different employee (i.e., staff record, figure 8) and wherein each profile comprises information related to the patient care capability of the associated employee (i.e., service title and procedures performed, figure 8); calculating scheduling efficiency information relating to a generated schedule of patients and employees based on the patient profiles and employee profiles (i.e., obtaining a tractable set of feasible schedules, which are

targets of optimization, pg 19, lines 22-23 and figure 13); and adjusting the schedule to generate a more efficient schedule (i.e., optimization of schedule, figure 13).

As per claim 17, Hirsch et al disclose compiling facility information, the facility providing the health-care environment (i.e., operating room input, figure 4), and wherein the facility information relates to the limitations of the facility (i.e., minimum operation times, default setup, cleanup, and roundup times, pg 16, lines 12-14); and calculating facility efficiency information in relation to the facility information and the scheduling information (i.e., utilization rate, figure 14).

Claim 18 is rejected based upon the rejection of claim 16, since it is the computer program product claim corresponding to the method claim.

As per claim 19, Hirsch et al disclose a system for scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: a memory store for storing patient information related to the needs of a plurality of patients (i.e., patient record, figure 2), resource information and employee information related to patient care capability of a plurality of patients (i.e., operating room information and staff member records, figures 4 and 8); a scheduling module that schedules patients and employees according to patient needs (i.e., optimization engine conducts two-phase optimal scheduling, pg 10, lines 26-30); and a display unit for displaying the scheduled patient information in combination with scheduled employee information (figure 12), the display providing efficiency information (figure 14).

As per claim 20, Hirsch et al disclose the scheduling module further calculates the needs of each patient based on a per-interval basis (i.e., calculation of average time to perform a procedure, pg 16, lines 25-27) and for calculating the employee capability on a per interval basis (i.e., average time of an average surgeon to complete procedure, pg 16, lines 25-27).

As per claim 21, Hirsch et al disclose the calculated needs of the employees and patients are displayed on the display unit (figure 6).

Claim 25 is rejected based upon the rejection of claims 19-21, since it is the interface claim corresponding to the system claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5, 8, 14, 22-24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirsch et al (WO 97/25682), in view of Rosse (USPN 6,640,212).

As per claim 5, Hirsch et al does not explicitly disclose the patient care capability value is averaged over an entire shift. Rosse discloses assigning staff schedules, wherein the selected staff for a specific assignment includes the percent of shift assigned (i.e., the capability of assigned staff over entire shift, figure 15). Both Hirsch

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et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include patient care capability value is averaged over an entire shift in Hirsch et al, as seen in Rosse, as an effective means of determining the availability of the staff member in terms of percent of shift assigned, thus making the Hirsch et al system more efficient in determining surgeon availability.

As per claim 8, Hirsch et al does not disclose each employee further has a predetermined non-patient care capability relating to performing non-patient care activities, and wherein the method further comprises: calculating a staff efficiency valued based on scheduled activities, wherein the activities relate to patient care and non-patient care activities. Rosse discloses non-client duties that do not involve patient participation (column 8, lines 11-14). Further, Rosse discloses the percent of shift assigned, which includes both client and non-client duties (figure 15). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a staff efficiency value based on scheduled activities, wherein the activities relate to patient care and non-patient care activities in Hirsch et al, as seen in Rosse, as an effective means of determining the efficiency of the staff members in terms of percent of shift assigned, thus making the Hirsch et al system more effective in determining surgeon availability during a shift.

As per claim 14, Hirsch et al does not disclose staggering the start time of at least two patients to allow one employee to substantially service the needs of the at least two patients. Rosse discloses pairing the duties corresponding to client activities with available and qualified staff members (column 10, lines 56-58), wherein duties include the staff helping the client with grooming, wherein multiple clients may be helped simultaneously (figure 16). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include substantially servicing the needs of the at least two patients in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 22, Hirsch et al does not disclose scheduling module further calculates a comparison value related to patient requirements and employee capabilities for each interval, said comparison values displayed on the display unit. Rosse discloses pairing the duties corresponding to client activities with available and qualified staff members (column 10, lines 56-58), wherein a duty contains all the documents, staff qualifications, and/or training requirements, and corresponding category value (figure 11). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a comparison value related to patient requirements and employee capabilities for each interval in Hirsch

et al, as seen in Rosse, as an efficient means of determining qualified staff, making the Hirsch et al system more robust.

As per claims 23 and 24, Hirsch et al does not disclose the calculated values are automatically updated and displayed following a modification to the patient/employee schedule information. Rosse discloses duty reassignment and assignment revisions, which allow modifications to staff and client schedules (column 12, lines 57-63 and column 13, lines 65-67). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculated values are automatically updated and displayed following a modification to the patient/employee schedule information in Hirsch et al, as seen in Rosse, as an effective means of making modifications, in order to better serve the patient in the Hirsch et al system.

Claim 26 is rejected based upon the rejection of claims 23 and 24, since it is the interface claim corresponding to the system claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Detjen et al (USPN 5970466) disclose scheduling appointments for an office or business.

-Andre et al (USPN 6278978) disclose improving an agent schedule, by unscheduling an agent from a shift in the schedule.

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-Lane et al (US 2002/0026342) disclose a scheduling engine for optimally scheduling the allocation of a set of service providers.

-Rassman et al (USPN 4937743) disclose prospective scheduling, periodic monitoring, and dynamic management.

-DeBusk et al (USPN 5995937) disclose a health care information management system that utilizes modular and reusable software objects.

Rensimer et al (USPN 5845253) disclose processing patient data.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



adb

June 16, 2005



ALEXANDER KALINOWSKI
PRIMARY EXAMINER